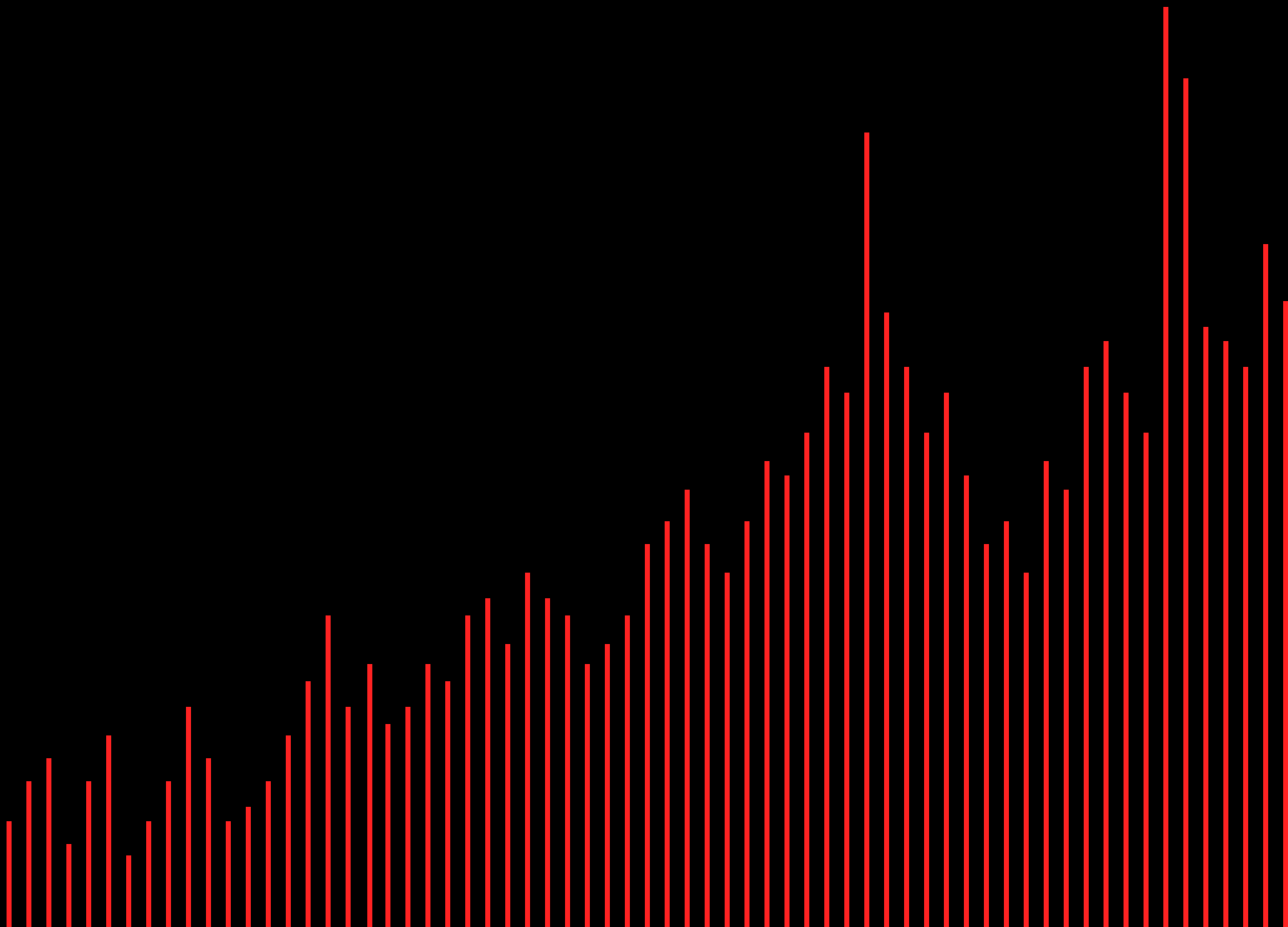


THE MARKET COMPASS

MONTHLY

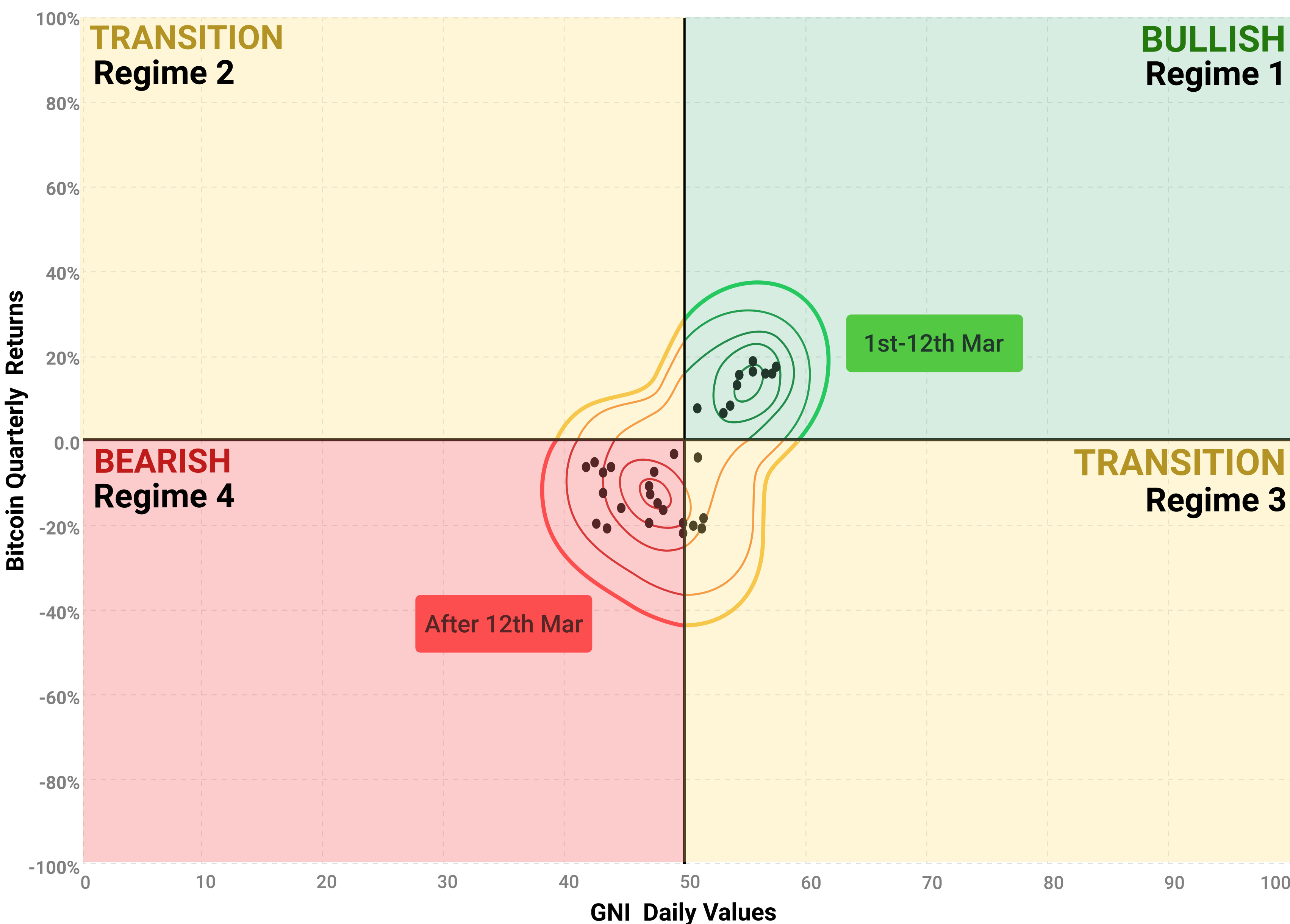
March 2020



KEY TAKEAWAYS

Market Compass Monthly provides a thorough overview about the Bitcoin development during the previous month. We first provide an assessment of the ecosystem’s aggregate state by analysing the behaviour of *GNI* and its subcomponents, before combining this information with price trends and identifying the current regime. At the end, we provide a Deep Dive into the subconstituents of *GNI* and analyse their behaviour in March and especially their individual reactions towards the price drop in mid March.

The GN Compass



PART 1: THE MONTH IN NUMBERS

The Market Compass Monthly: March provides a thorough overview about the Bitcoin development during March. Firstly, The Month in Numbers summarises all relevant information about *GNI* and the GN Compass in one page. Secondly, *GNI* Recap assesses the aggregate state of the Bitcoin ecosystem by analysing *GNI*’s development and that of its subcomponents during March. Finally, information about Bitcoin fundamentals and price trends are combined in the GN Compass to identify the current regime, its development over time and its stability.

Section 1: The Month in Numbers

Section 2: GNI Recap

Section 3: GN Compass

PART 2: SUBINDEX DEEPDIVE

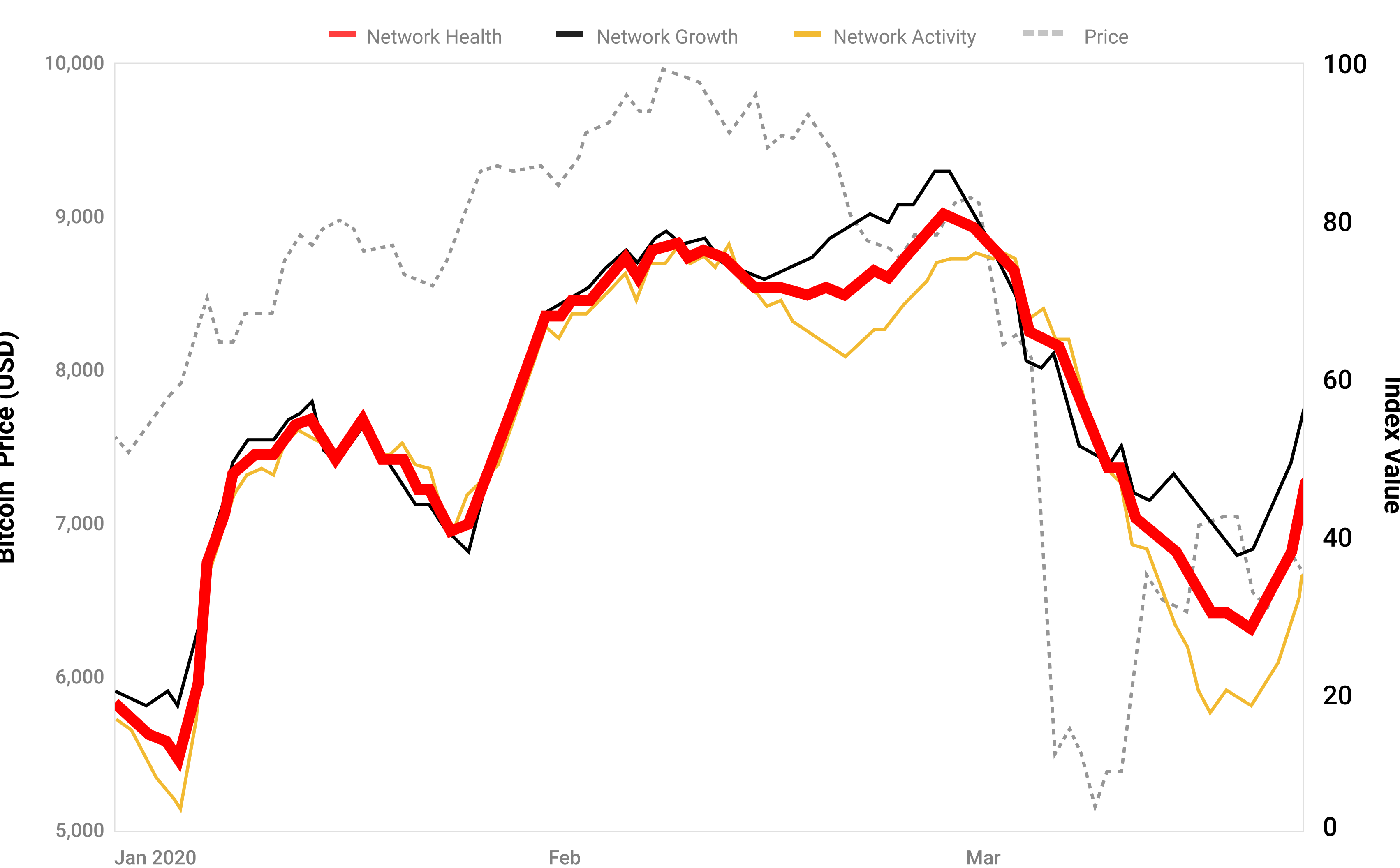
To get a better understanding of how *GNI* operates and what subtleties it can pick up on, *GNI* Deep Dive is delving into its constituent sub-indices to see what they can reveal about the foundation of the Bitcoin ecosystem, always with the global view in mind. Each section analyses one sub-index and their respective components, first, through their developments during March and, secondly, by highlighting their individual reactions to the price drop in mid-March.

Section 1: Network Health

Section 2: Sentiment

Section 3: Liquidity

Network Health & Major Sub-Components



PART 1: THE MONTH IN NUMBERS

GNI Region Breakdown

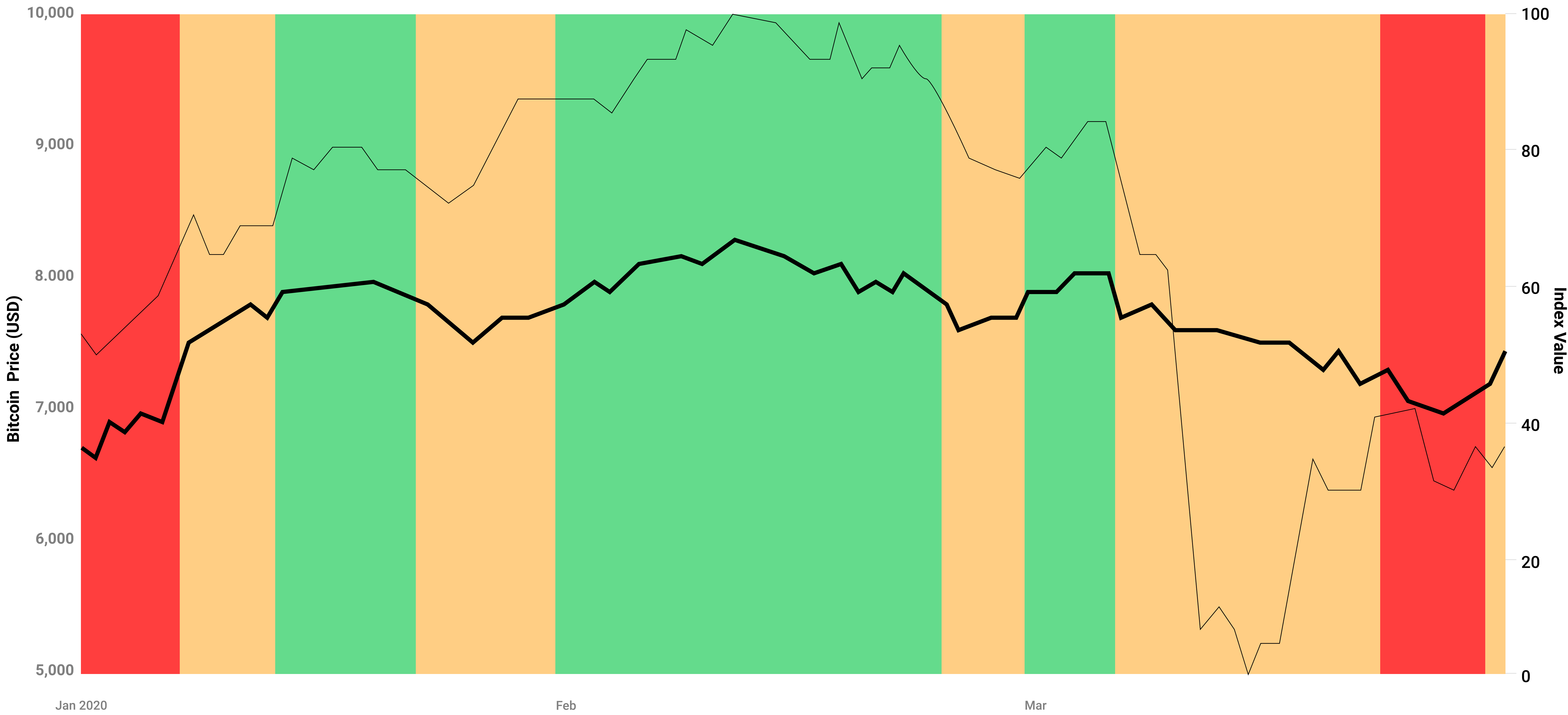
	Current Month	Last Month	Year to Date	Current Region
GNI Index	57	50	35	Neutral
		14.0%	62.86%	
Network Health	69	50	25	Strong
		38.0%	176.00%	
Network Growth	74	53	26	Strong
		39.6%	184.61%	
Network Activity	64	48	24	Strong
		33.3%	166.67%	
Liquidity	57	61	40	Neutral
		-6.5%	42.24%	
Trading	60	75	45	Strong
		20.7%	33.34%	
Transactions	56	56	38	Neutral
		0%	47.37%	
Sentiment	31	26	48	Weak
		19.7%	-35.42%	
Investor Sentiment	38	22	36	Weak
		72.7%	5.56%	
Saving Behavior	9	43	100	Weak
		-79.0%	-91.00%	

The GN Compass



GNI MONTHLY OVERVIEW

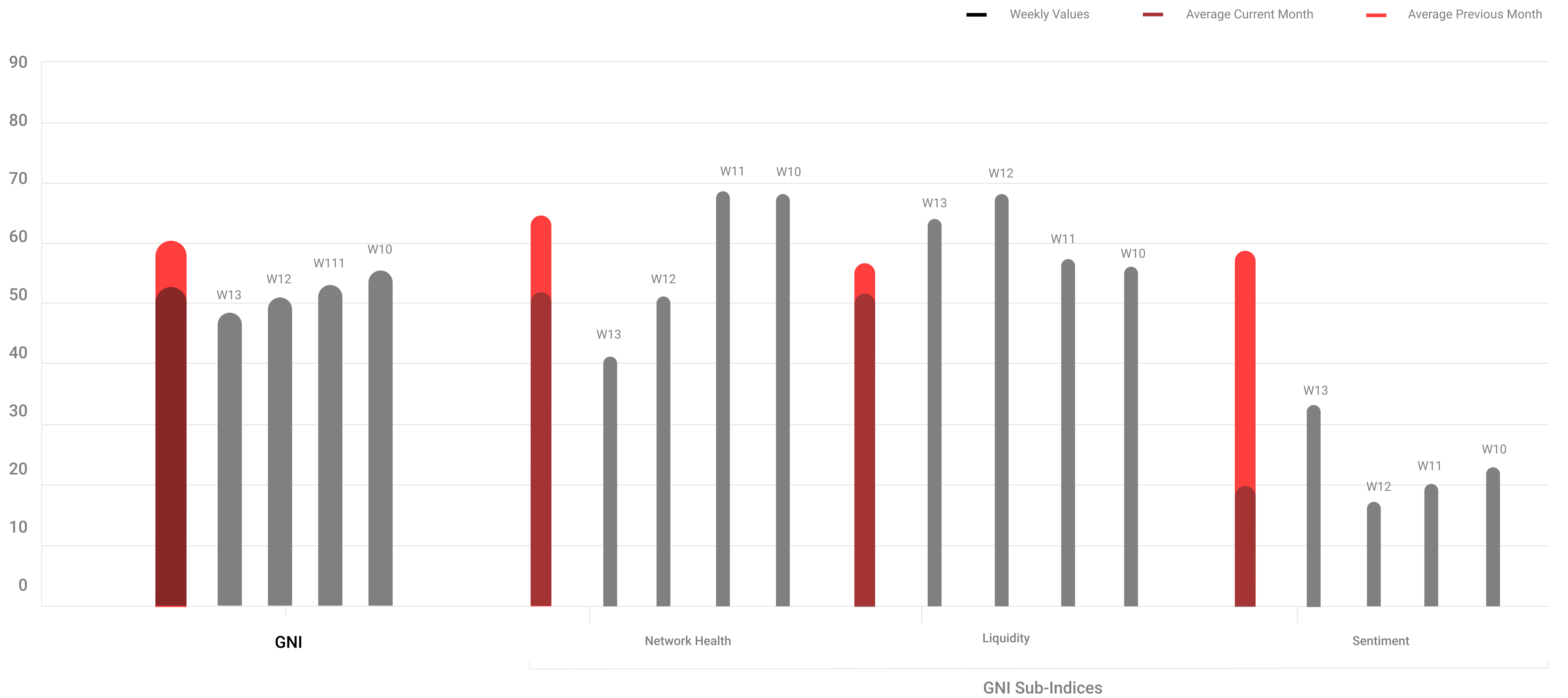
GNI Change Year to Date



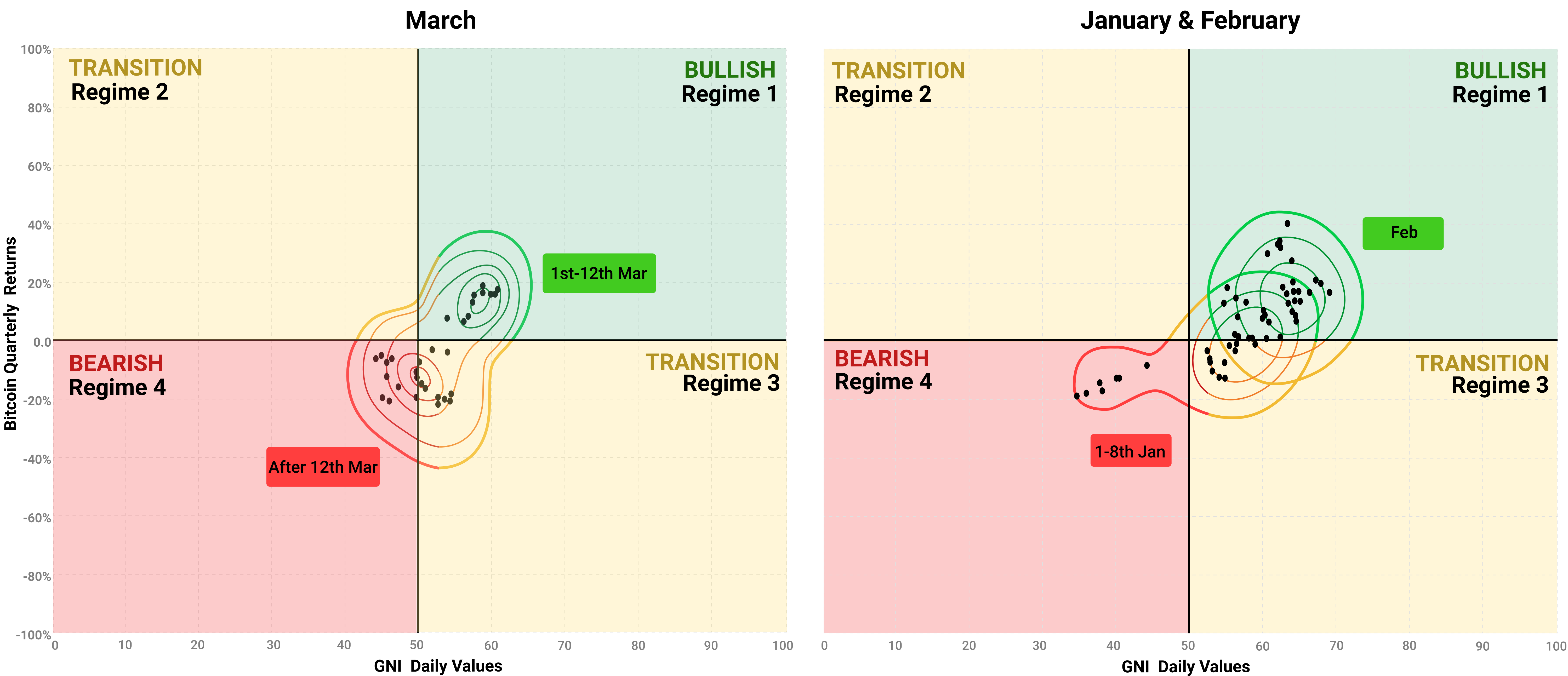
In lockstep with Bitcoin’s bullish price behaviour in the first weeks of 2020, the *GNI* too increased steadily, starting the year well within the red area, even below the 40 pt mark, and reaching 63 pts in mid February, laying great foundations for a period of bullish price behaviour. But as the full implications of COVID-19 hit the financial markets in mid/late February, both blockchain fundamentals and Bitcoin price embarked upon a steep decline, with Bitcoin losing over 30% within two days and *GNI* dropping to 40 pts, before both showing modest signs of recovery again in late March.

Despite similar behaviour of *GNI* and Bitcoin price, the individual sub-indices behaved quite differently. *Network Health* remained at a healthy 60 pt level throughout January and even into March before yielding to the rising pressure, while *Sentiment* has already been on a slide since the end of January. *Liquidity* on the other hand profited from the turmoil and registered some healthy gain, until financial and crypto markets calmed down near the end of March.

GNI & Subindex Values



GN Compass Contour Plots



This chart depicts each day of the month as a dot on the GN Compass and adds a contour plot indicating the estimated density of these dots. The smaller the area, the lower the deviation within the month and vice versa. A stable regime, thus, results in a focused plot, while a volatile month with significant changes in GNI and/or BTC price yields a wider area.

The GN Compass supports our earlier reading. Starting the year off bearish in regime 4, an increase in both GNI and Bitcoin price took it through a short transition period right into regime 1. As expected from uptrending prices backed by solid network fundamentals, the GN Compass consistently stayed bullish until well into March, outlasting the crashing financial markets, before finally yielding to the pressure caused by COVID-19 to the world.

The price drop and accompanying change in on-chain behaviour kicked the GN Compass right back into regime 4, characterised by falling prices and poor on-chain fundamentals. It is noticeable that there is no transition period between regime 1 and 4. This highlights the exogeneity of Bitcoin's crash: This is not a slow decline caused by deteriorating fundamentals, but a reaction to events in the outside world.

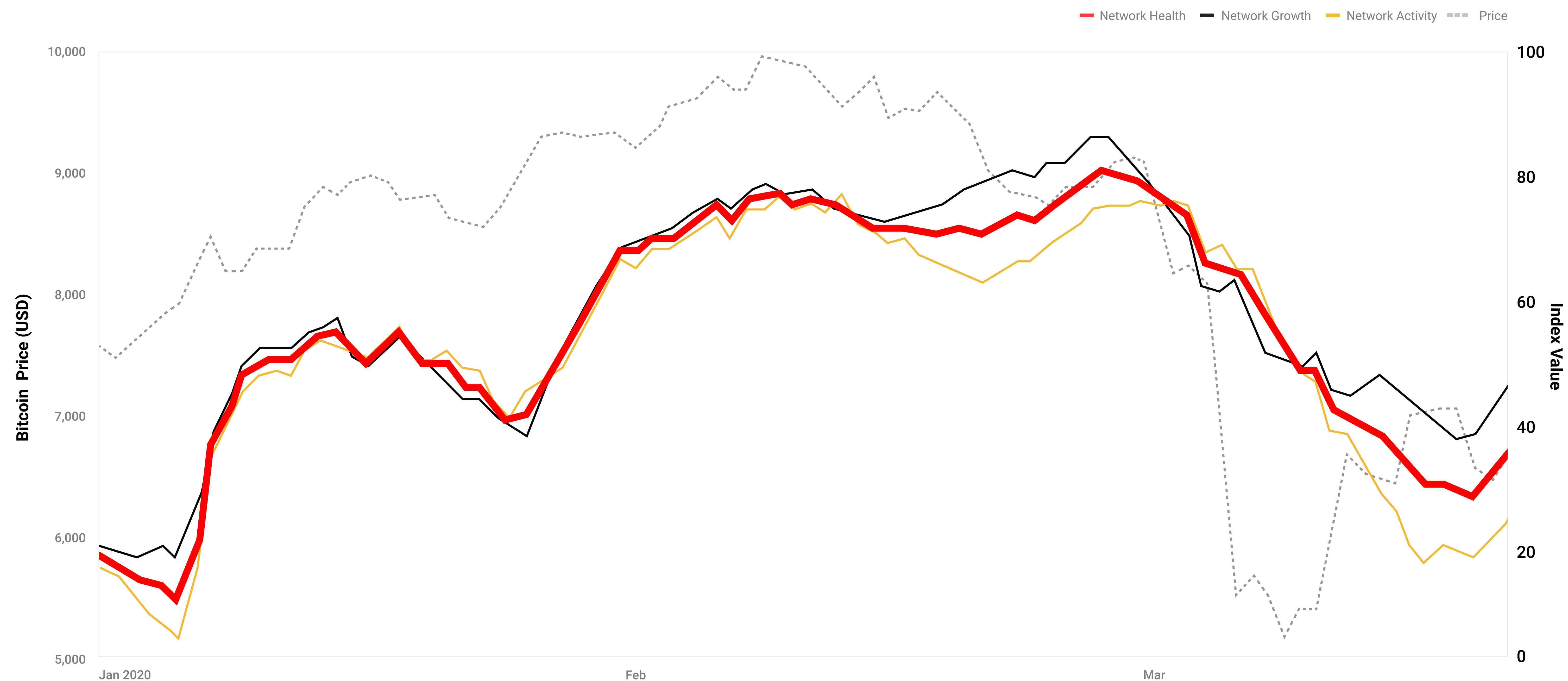
PART 2:

SUBINDEX DEEPDIVE: WHAT HAPPENED ON MARCH 12-13TH

While extremely valuable as a general measure, the aggregate picture obscures some of the subtleties *GNI* picks up on. To get a better understanding of how *the GNI* operates and what it can reveal about developments in Bitcoin, it is worth delving into its constituent sub-indices. We do this by highlighting the developments around the price drop in mid-March.

NETWORK HEALTH

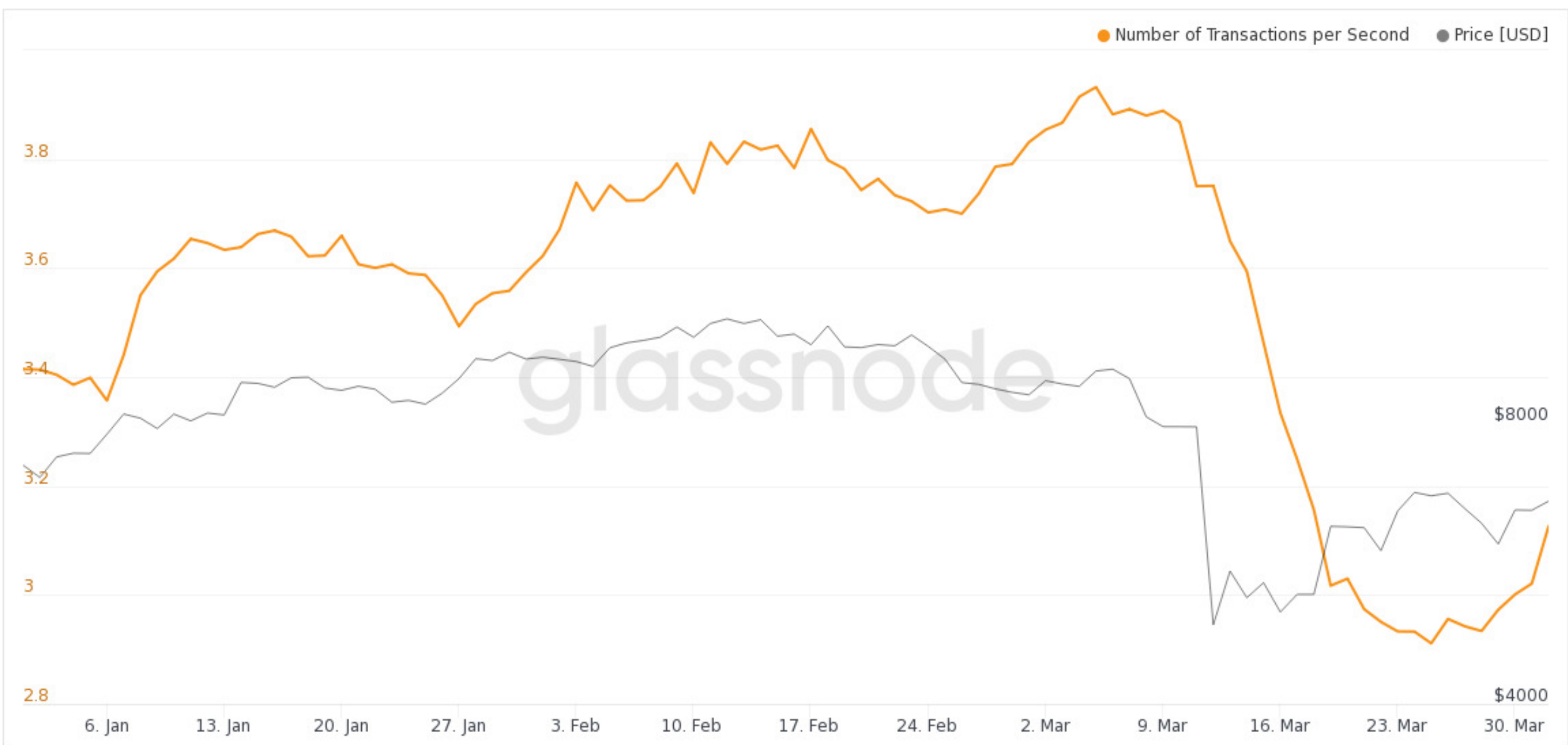
Network Health & Major Sub-Components



Network Health took a major hit during March, losing more than 50%, caused in part by the freezing up of Bitcoin holder’s interaction with the network due to the flash crash in price. The decline started just before the drop happened and continued throughout most of March, but no stark changes occurred. The downswing can mostly be attributed to *Network Activity*. After returning to yearly highs just before the price drop, it significantly decreased by more than 60% in the following weeks. *Network Growth* acted as a mitigating factor, also dropping in the first days, but rallying quickly, thereby absorbing parts of the following descent.

To get a better understanding of how specific on-chain metrics drive this behaviour, let’s look at one for each category: Transaction Rate as part of *Network Activity* and *Entities Net Growth* as part of *Network Growth*. *Transaction Rate* dropped by 25% following the drop, indicating that more cautious transaction behaviour from current network participants was reducing the overall on-chain activity. On the flip side, *Entities Net Growth* started to steadily increase beginning with the price drop, suggesting that more people are becoming interested in Bitcoin and started to enter the network. This influx of new entities kept increasing throughout March. Once the initial shock subsided later in March, *Transaction Rate* and overall *Network Activity* as a whole started to recover. This turned around the downward trend in *Network Health* and reversed it into an upwards trajectory, laying the groundwork for a recovery in Bitcoin price.

Bitcoin: Transaction Rate (7d Moving Average)

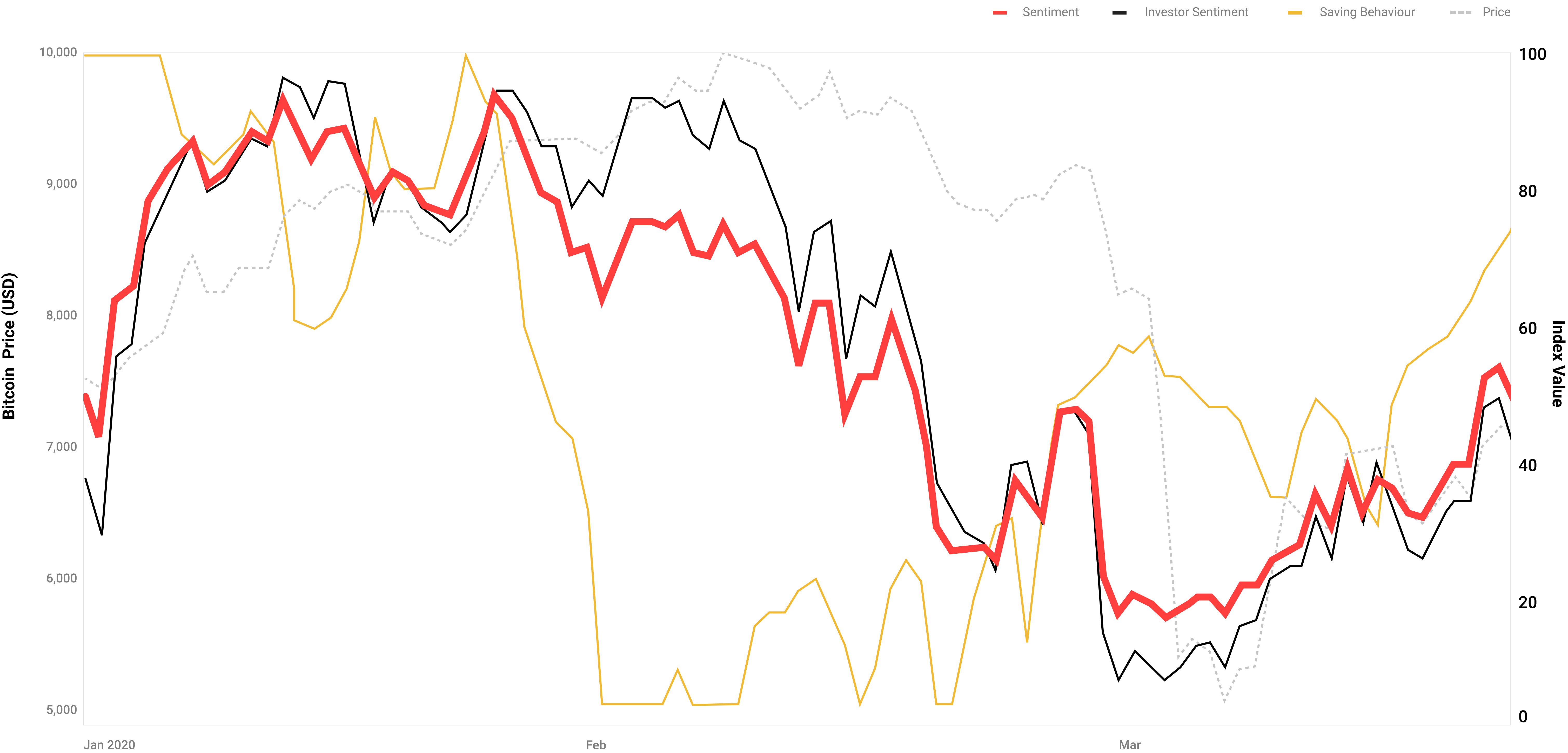


Bitcoin: Entities Net Growth (7d Moving Average)



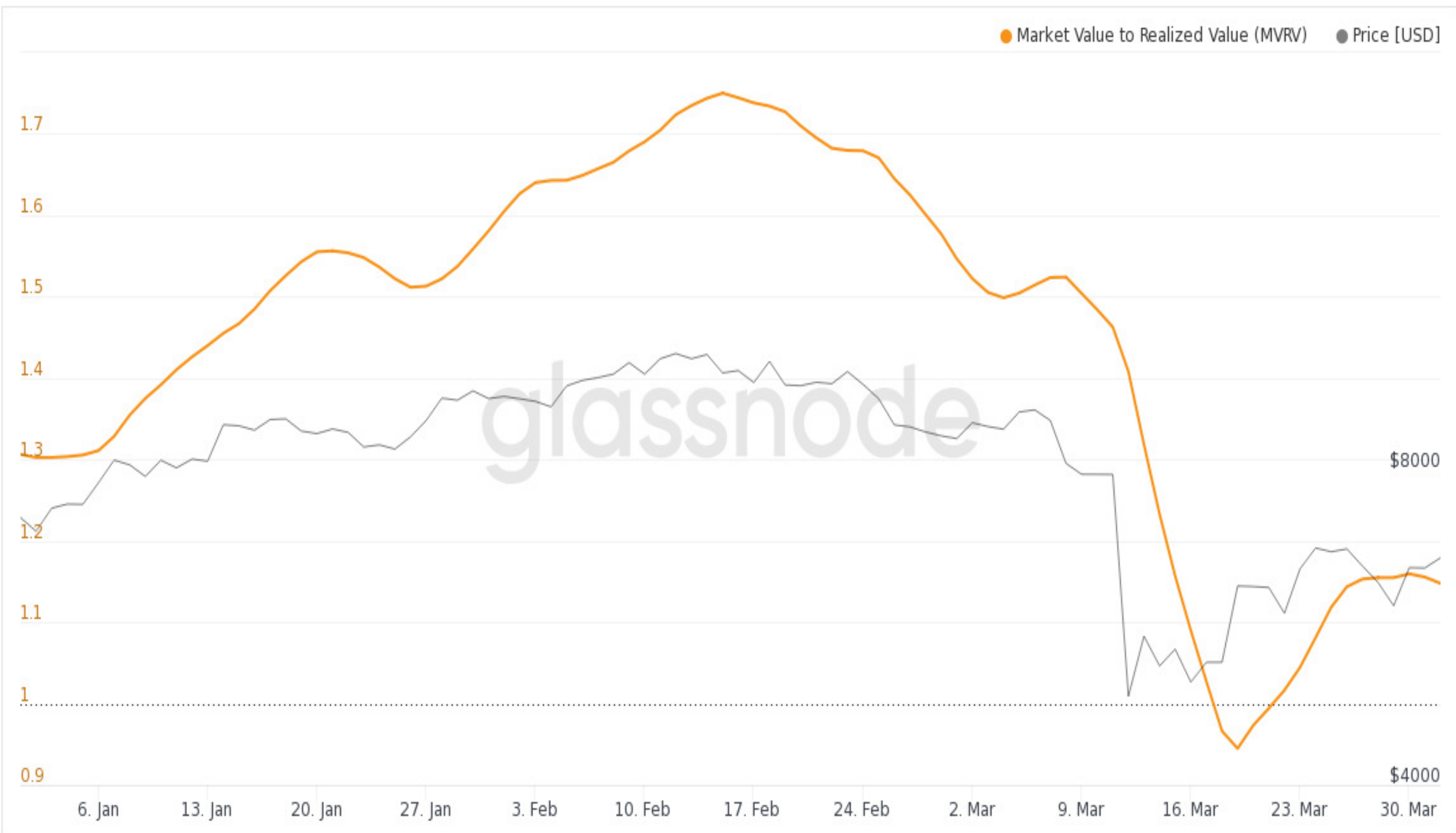
SENTIMENT

Sentiment & Major Sub-Components

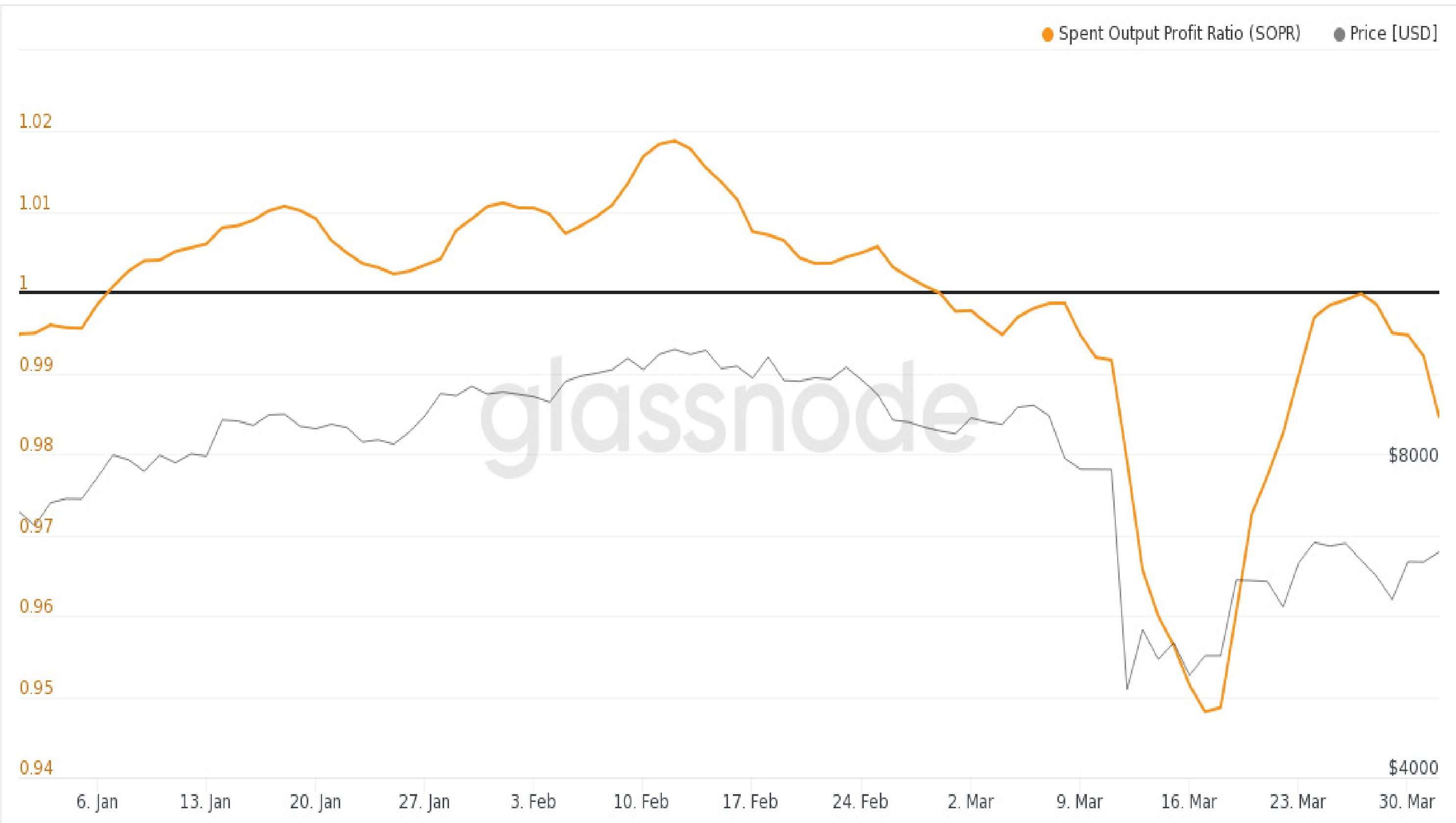


Sentiment started to decline long before the drop and has been in free fall since the end of January. Dropping prices reduce the value of Bitcoin accounts, reducing measures for potential earnings like the *MVRV* and *Unrealised Profits*. Combine this with a weak *Hodler Net Position Change*, and there is no other way for *Sentiment* to go but down. Looking at *SOPR*, we can see that during and after the drop in March damage to Bitcoin accounts was not hypothetical anymore, but that holders were actually selling Bitcoin at a loss, which extended to both short term and long term holders. It is hard to discern the cause for this: a Bitcoin related loss of faith or external pressures on investors to generate liquidity in an uncertain market environment. The latter seems to be at least part of the explanation, thereby extenuating the negative signal ensuing from the drop for future Bitcoin development.

Bitcoin: MVRV Ratio (7d Moving Average)



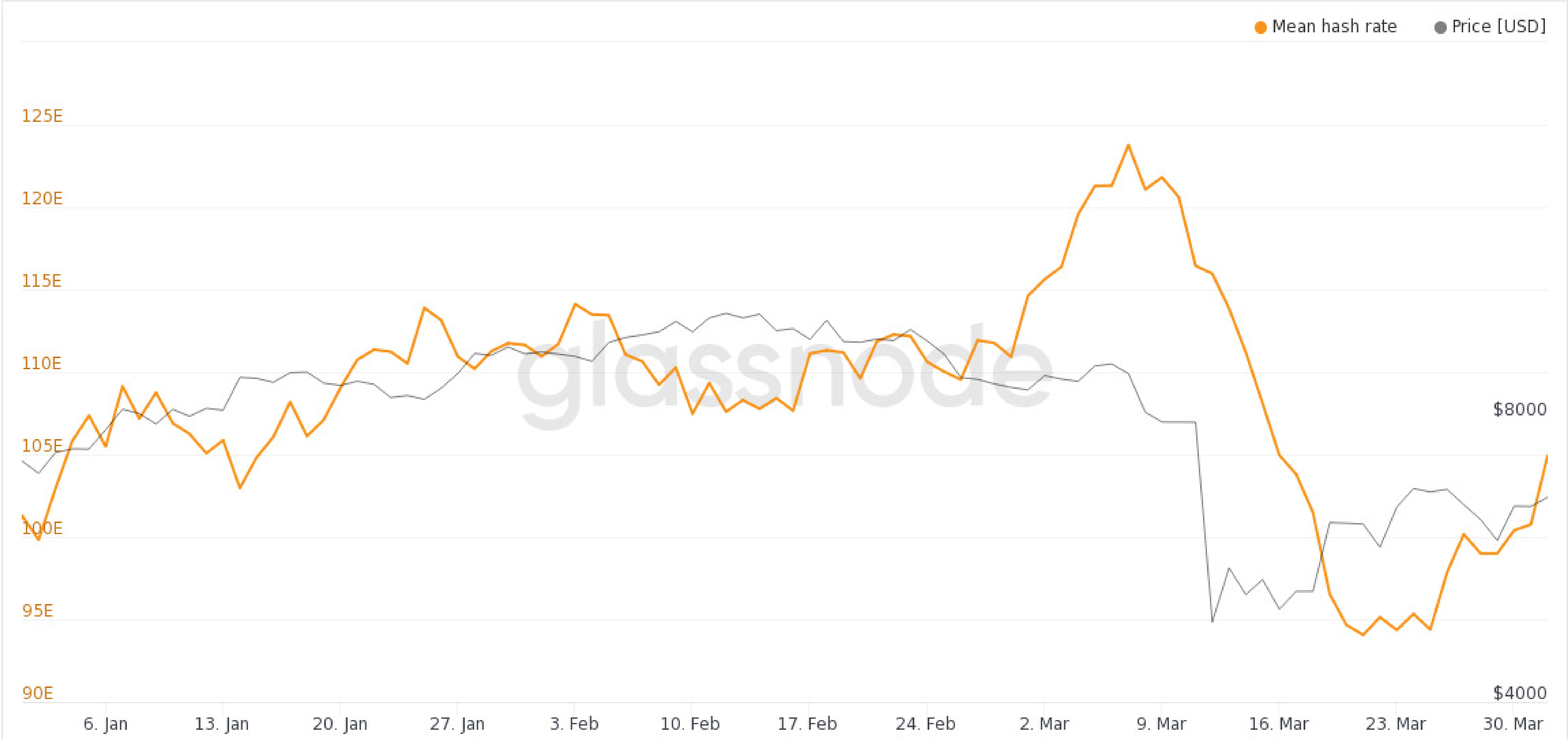
Bitcoin: SOPR (7d Moving Average)



Although currently not included in the *GNI*, in this context it is interesting to look at another measure often used to capture long-term expectation: *Miner Sentiment*. Due to the huge frictions involved in the mining process, metrics like *Hash Rate* are usually quite stable. Large down spikes would indicate miners turning off their mining rigs, forgoing income from selling the mined coins in order to not pay for electricity (not even taking contractual obligations etc. into account). To put it simply: Miners invested a large amount of money upfront for the rigs in order to earn money later on, but are now not able to pay for running expenses, forcing them to leave the network.

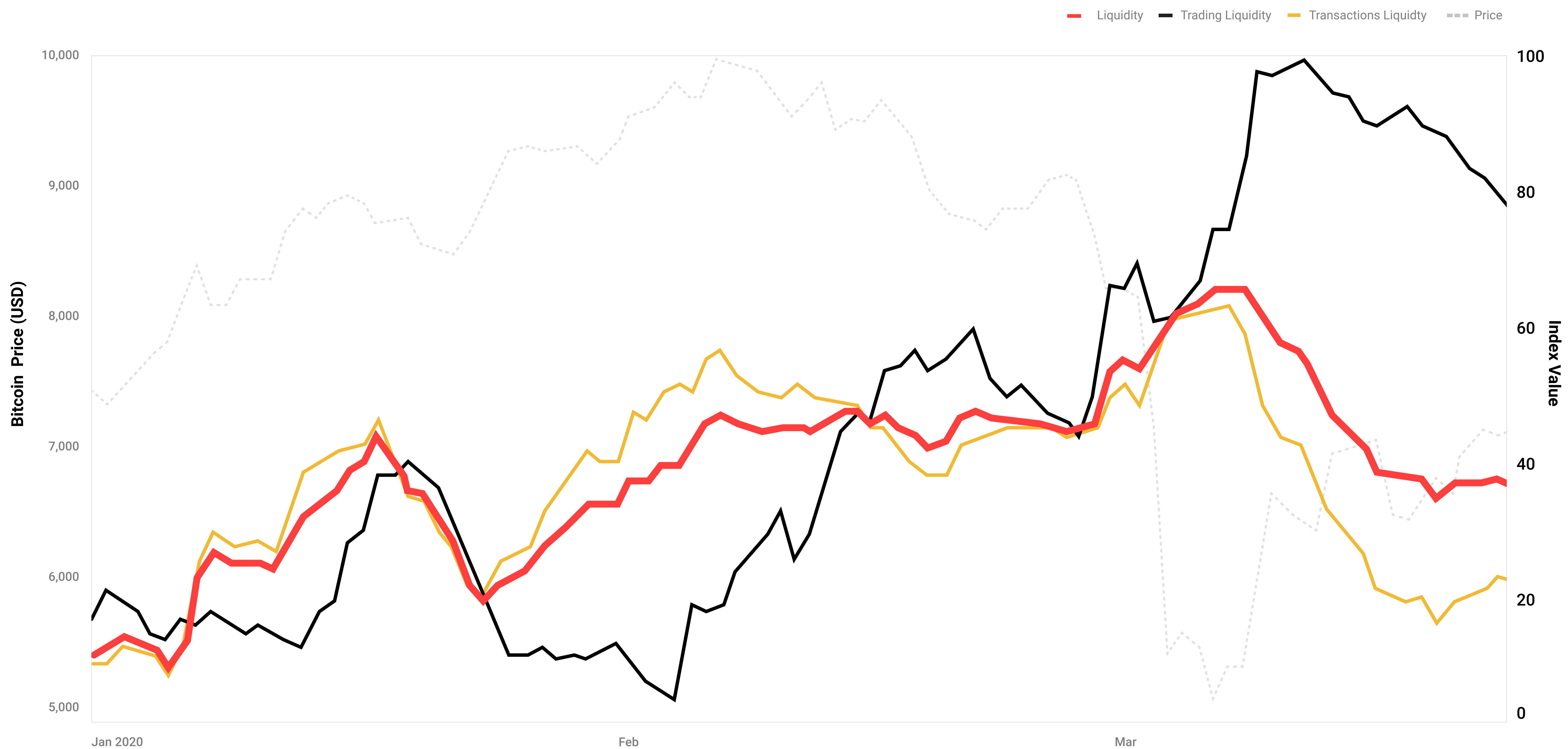
Thus, the 25% drop within 2 weeks following the price drop should usually be seen as a very significant event, indicating some miners losing faith in Bitcoin. Two events, however, caution us from reading too much into this drop. Firstly, the upcoming halving and accompanying shake-out of the mining ecosystem will render older and less efficient mining rigs unprofitable. The long term damage for these miners, who expect to turn off their rigs about two months later anyway, is not that large. Secondly, hash rates started to slowly recover later in March, indicating the same miners coming back or new miners entering the network.

Bitcoin: Hash Rate (7d Moving Average)



LIQUIDITY

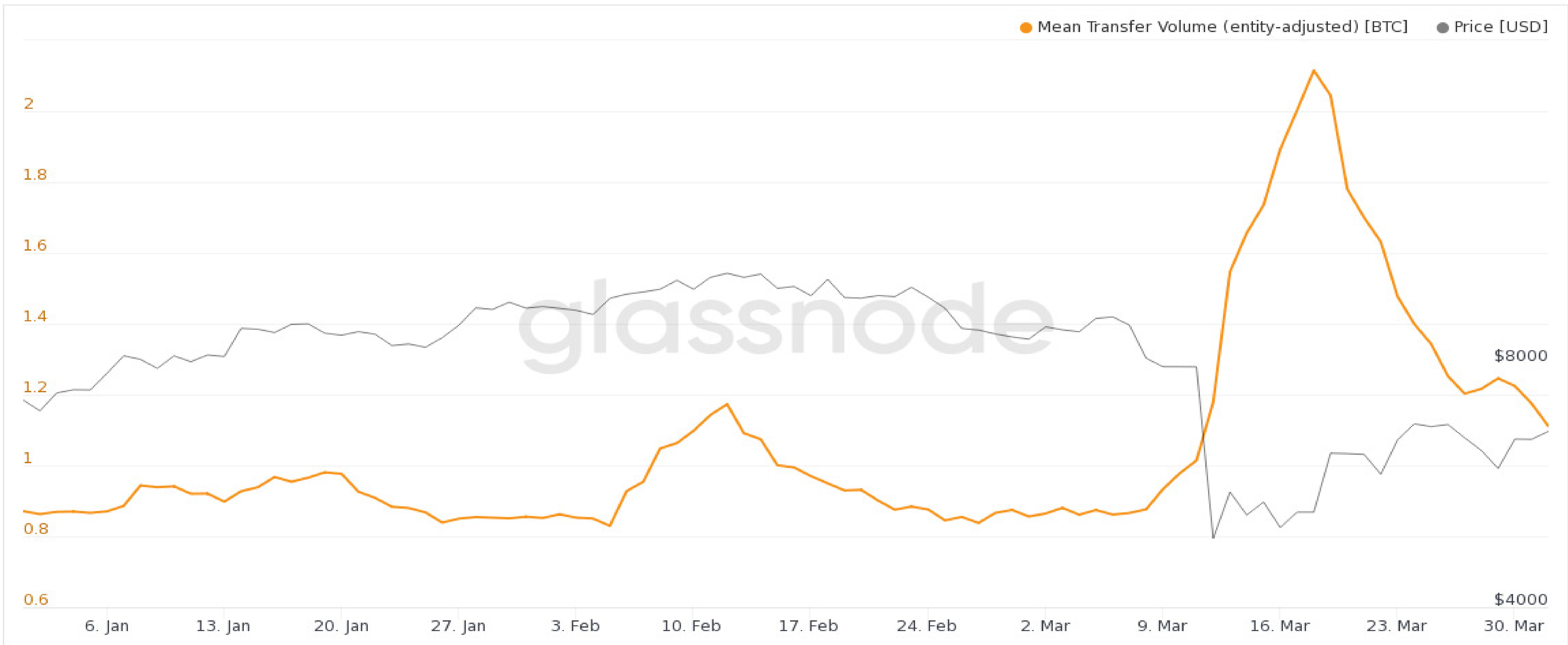
Liquidity & Major Sub-Components



Liquidity is the only winner during this turmoil, reaching its annual high shortly after the drop occurred, but then slowly reverting to the level it held throughout most of February and March. Looking at its sub-indices, we see a strong divergence between *Transaction Liquidity* and *Trading Liquidity* after the drop.

Transactions peaked during the sell-off, but then decreased again for the rest of March. *Entity-Adjusted Transfer Volume* (7d MA) reached its highest value since January 2018 of over 510,000 Bitcoin. This is especially significant, since absolute transactions dropped, but being outweighed by a more than doubling of mean transaction sizes, indicating a pattern change in transaction behaviour. This supports the reading provided above: economic uncertainty may have led network participants to act more cautiously and refrain from smaller transactions for the moment.

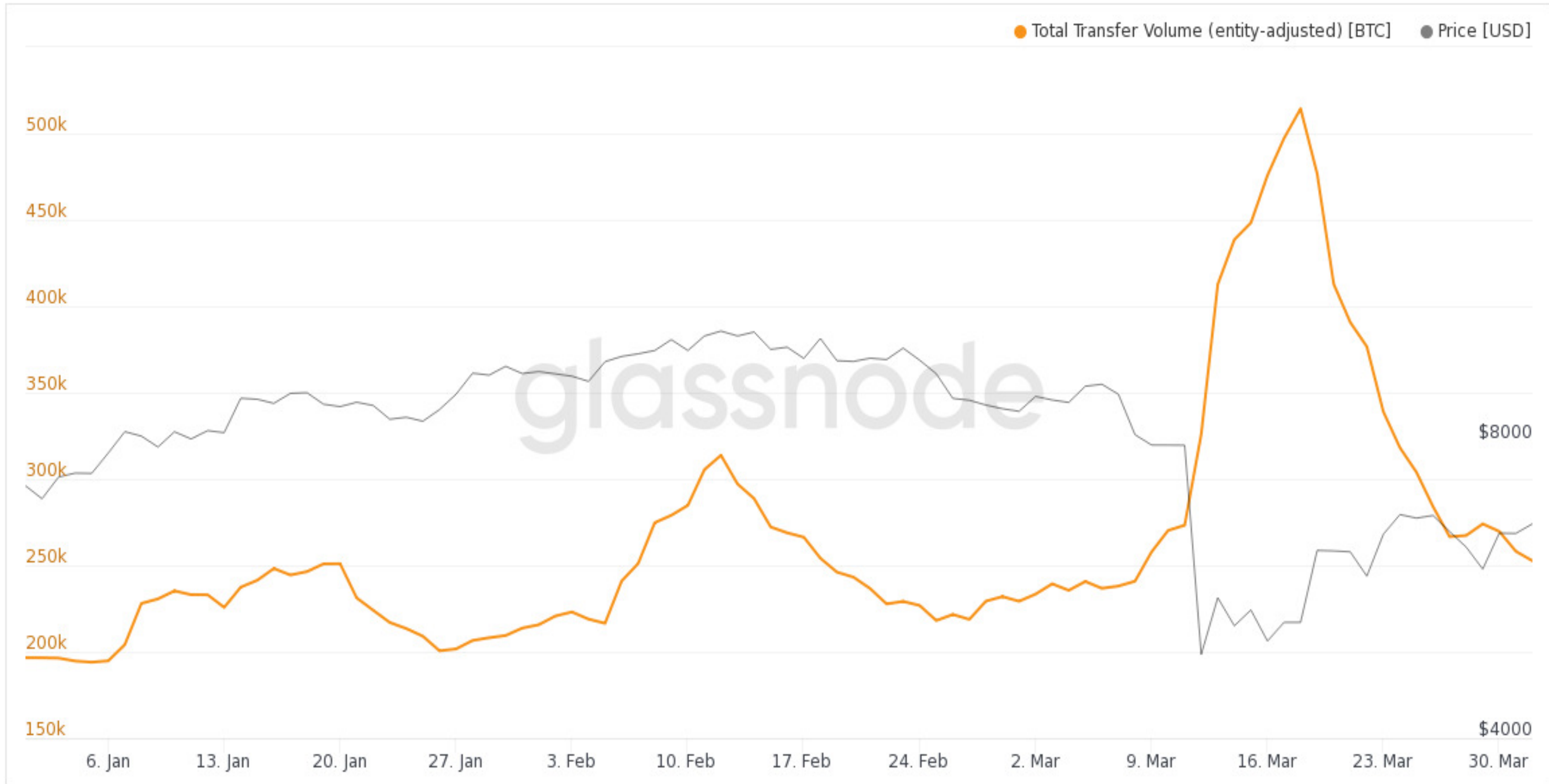
Bitcoin: Entity-Adjusted Volume (Mean) (7d Moving Average)



Bitcoin: Entity-Adjusted Transaction Count (7d Moving Average)

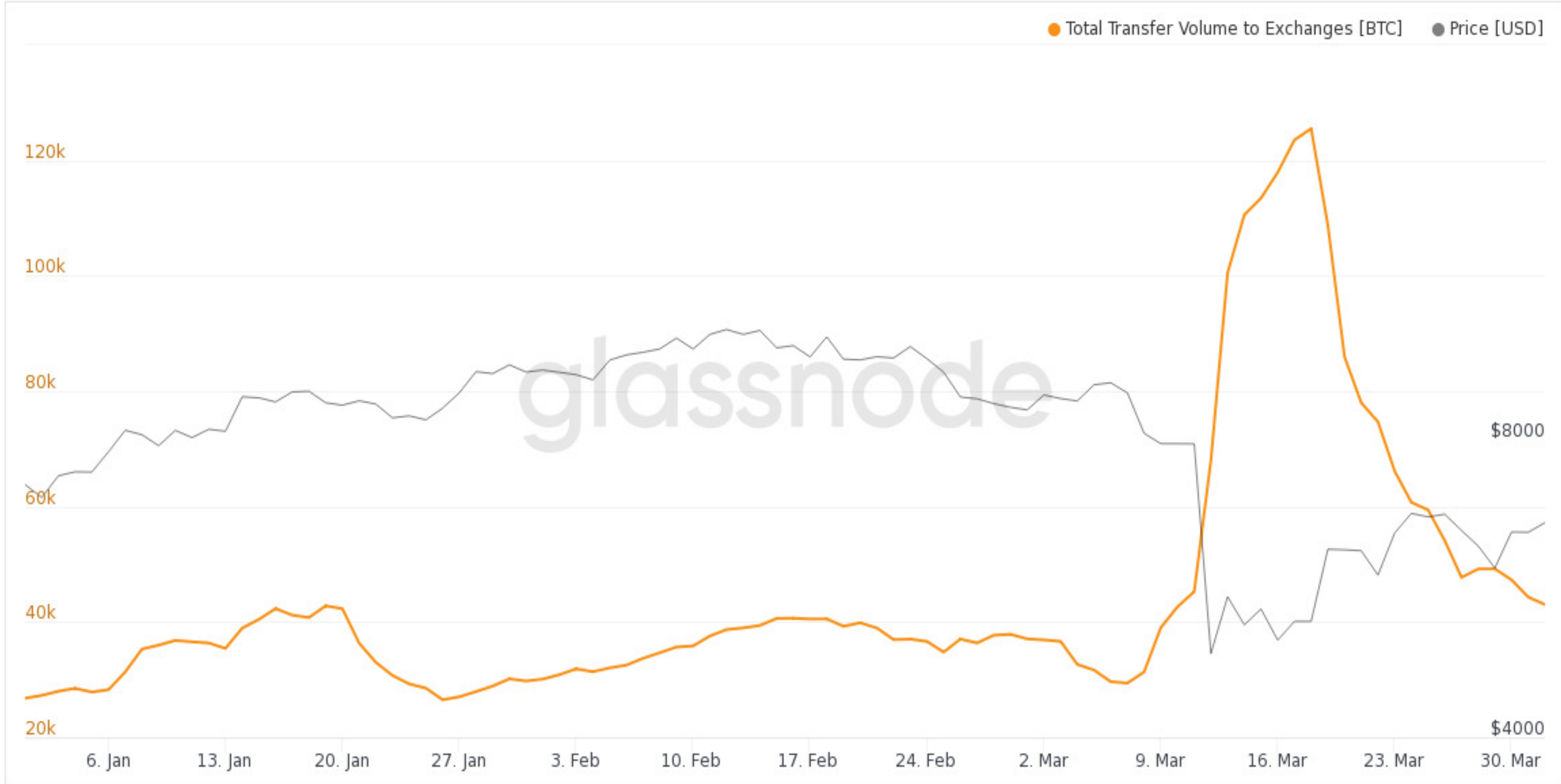


Bitcoin: Entity-Adjusted Volume (Total) (7d Moving Average)

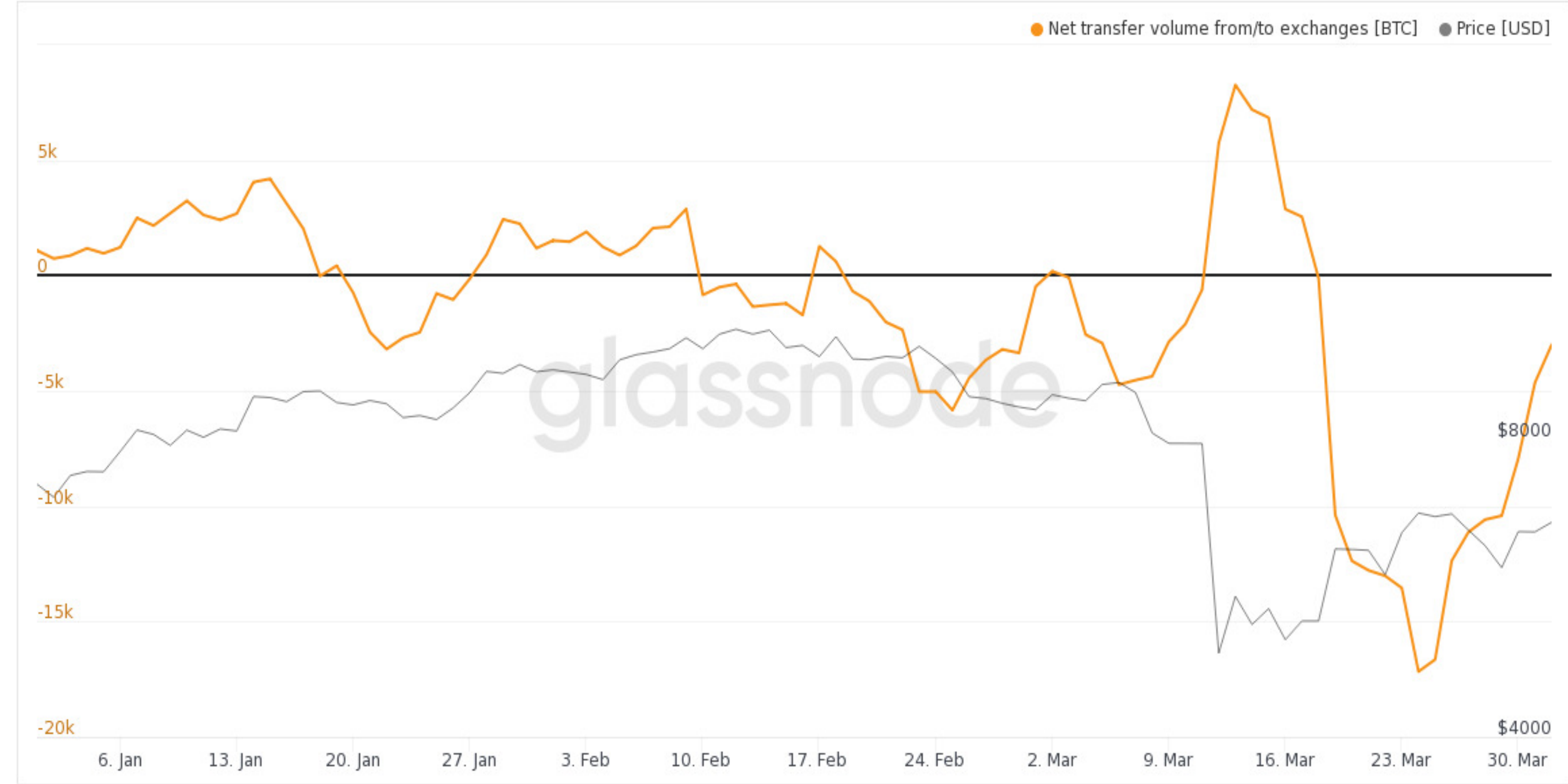


While *Transaction Activity*'s peak was short-lived, *Trading Liquidity* profited on a lasting basis. As a consequence of Bitcoin's price drop the *Stablecoin Supply Ratio* decreased, making it more convenient to acquire Bitcoin and thereby increasing Bitcoin's *Trading Liquidity*. Exchange Inflows registered their highest value in over a year on March 18th, more than tripling its usual amount, and staying on a decent level ever since. This is most likely caused by the desire to sell these coins. Again, it is hard to say whether this is due to a general loss of faith in Bitcoin or the need to liquidate current holdings for liquidity purposes. In combination with *Negative Exchange Netflows*, however, this might be a good sign for the Bitcoin ecosystems, suggesting coins are not piling up, but still being in high demand.

Bitcoin: Exchange Inflow (Total) (7d Moving Average)



Bitcoin: Exchange Net Flow (7d Moving Average)



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